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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,235	06/28/2001	Lance W. Russell	10003532-1	8674

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

BILGRAMI, ASGHAR H

ART UNIT	PAPER NUMBER
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2143

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/895,235

Applicant(s)

RUSSELL, LANCE W.

Examiner

Asghar Bilgrami

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-25, 27- 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-25, 27- 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/01/2006 has been entered.
2. In light of the claim amendments by the applicant the examiner has withdrawn 112 rejection on claims 1 & 26-29.
3. In light of the applicant's explanation regarding claims 11 & 20 on the second page of the remarks section, the examiner has withdrawn the 112 rejection on claims 11 & 20.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 5 rejected under 35 U.S.C. 102(e) as being anticipated by Turek (U.S. 6,460,070)

6. As per claims 5 Turek disclosed a system for managing a plurality of distributed nodes of a network, comprising: a recovery modules configured to migrate from one network node to another, determine a status of a network, and initiate a recovery process on a network node having one or more failed node processes (col.2, lines 37-46, lines 63-67 & col.2, lines 1-46) wherein the recovery module is configured to determine the status of a network node in accordance with a heartbeat messaging protocol (col.2, lines 22-46). Although Turek did not specifically mentioned a heartbeat messaging protocol to determine the status of a network node. However Turek did disclose collecting information about network conditions to include network node by the use of mobile software agents that that periodically check the network status information, which is an inherent function of a heartbeat messaging protocol.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Turek (U.S. 6,460,070) and Harvell (U.S. 6,834,302 B1).

9. As per claims 5 Turek disclosed a system for managing a plurality of distributed nodes of a network, comprising: a recovery modules configured to migrate from one network node to another, determine a status of a network, and initiate a recovery process on a network node having one or more failed node processes (col.2, lines 65-67 & col.2, lines 1-46) wherein the recovery module is configured to determine the status of a network node in accordance with a heartbeat messaging protocol (col.2, lines 22-46). However Turek did not specifically mentioned a heartbeat messaging protocol to determine the status of a network node. In the same field of endeavor Harvell disclosed a heartbeat messaging protocol to determine the status of a network node (col.2, lines 50-56).

It would have been obvious to one in the ordinary skill in the art at the time the invention was made to have incorporated the heartbeat messaging protocol to determine the status of a network node as disclosed by Harvell in the a system for managing a

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plurality of distributed nodes of a network as disclosed by Turek in order to make the managing system more reliable and responsive resulting in determining accurate diagnosis and status of the network nodes.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-4, 6-9, 11-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turek et al (U.S.6,460,070) and Sreenivasan (U.S. Pub No. 2002/0049845 A1).

12. As per claims 1, 11, 19 & 20 Turek-Sreenivasan disclosed a method for managing a plurality of distributed nodes of a network, comprising: a network management module that launches migratory recovery modules into the network to monitor status of each of the network nodes; wherein each of the recovery modules is configured to migrate from one network to another, determine a respective status of each of the network nodes to which it has migrated, and initiate a recovery process on

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failed ones of the network nodes.(col.3, lines 48-64, col.1, lines 59-62, 65-67, col.2, lines 22-26, col.2, lines 1-3, col.2, lines 22-26 & col.5, lines 32-60), having one or more failed node processes, the recovery modules determine the status of each of the network nodes, and the network management module monitors transmissions that are received from the recovery modules to provide periodic monitoring of the status of the network nodes (col.7, lines 58-67 & col.8, lines 1-9). However turek did not explicitly disclose the recovery module (software agents) periodically sending network node status. In the same field of endeavor Sreenivasan disclosed recovery modules sending periodic status updates of a specific node to the other network entity node (page.2, paragraph.26 & page.6, paragraphs. 111 & 112).

It would have been obvious to one in the ordinary skill in the art at the time the invention was made to have incorporated a recovery module with periodic status update capability as disclosed by Sreenivasan in the system of managing a plurality of distributed nodes of a network in order to make the managing system more reliable and responsive resulting in determining accurate diagnosis and status of the network nodes.

13. As per claims 2, 12, 21, 23, 24 & 25 Turek-Sreenivasan disclosed the system of claim 1, wherein at least one of the recovery module comprises a respective routing component for determining a next hop address from an origin network node to a destination network node (Turek, col.5, lines 32-60).

14. As per claims 3 & 13 Turek-Sreenivasan disclosed the system of claim 2, wherein the routing component is configured to determine the next hop address based upon a routing table stored at the origin network node (Turek, col.5, lines 32-60)

15. As per claims 4 & 14 Turek-Sreenivasan disclosed the system of claim 1, wherein at least one of the recovery module is configured to determine the status of a network node by sending an inter-process communication to a node process (Turek, col.3, lines 65-67, col.4, lines 1-12 & col.5, lines 32-60).

16. As per claim 15 Turek-Sreenivasan disclosed the method of claim 11, wherein the status of the network node is determined in accordance with a heartbeat messaging protocol (Sreenivasan, paragraph.78)

17. As per claims 6 & 16 Turek-Sreenivasan disclosed the system of claim 1, wherein each of the recovery module is configured to initiate a recovery process on a network node having one or more failed node processes in accordance with a restart protocol (Turek, col.6, lines 23-59).

18. As per claims 7 & 17 Turek-Sreenivasan disclosed the system of claim 6, wherein each of the recovery module is configured to initiate a restart of a failed node

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process by transmitting a request to a process execution service operating on the failed network node (Turek, col.6, lines 23-59).

19. As per claims 8 & 18 Turek-Sreenivasan disclosed the system of claim 1, wherein each of the recovery module is configured to transmit a respective node status message to the network management module (Turek, col.2, lines 22-62).

20. As per claim 9 Turek-Sreenivasan disclosed the system of claim 8, wherein each of the node status messages comprises information obtained from a respective log file generated at a respective failed one of the network node (Turek, col.8, lines 58-67 & col.8, lines 1-9).

21. As per claim 22 Turek-Sreenivasan disclosed the system of claim 21, wherein the operating environment on each of the network nodes provides each of the recovery modules with access to status monitoring resources, recovery resources, and native operative system resources that are available at each of the network nodes (Turek, col.8, lines 39-52).

22. As per claim 30 Turek-Sreenivasan disclosed the system of claim 1, wherein the network management module monitors number of network node failures reported by the recovery modules and launches more migratory modules into the network as the number of reported failures increases (Turek, col.5, lines 32-67).

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 27, 28 & 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turek (U.S. 6,460,070) and Douik et al (U.S. 6,012,152).

25. As per claims 27, 28 & 29 Turek disclosed the system of claim 1. However Turek did not explicitly disclose, wherein the network management module statistically identifies target ones of the network nodes to achieve a specified confidence level of network monitoring reliability, and proactively launches the recovery modules into the network by transmitting respective ones of the recovery modules to the identified target network nodes. In the same field of endeavor Douik disclosed wherein the network management module statistically identifies target ones of the network nodes to achieve a specified confidence level of network monitoring reliability, and launches the recovery modules into the network by transmitting respective ones of the recovery modules to the identified target network nodes (col.11, lines 64-67 & col.12, lines 1-19).

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It would have been obvious to one in the ordinary skill in the art at the time the invention was made to have incorporated statistical means for managing network by proactively launching recovery modules as disclosed Douik in the method of managing plurality of nodes as disclosed by Turik in order to automate and enhance the management of the network resulting in a trouble free and reliable network.

Response to Arguments

26. Applicant's arguments with respect to claims 1-9, 11-25, 27- 30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asghar Bilgrami whose telephone number is 571-272-3907. The examiner can normally be reached on 9-5.

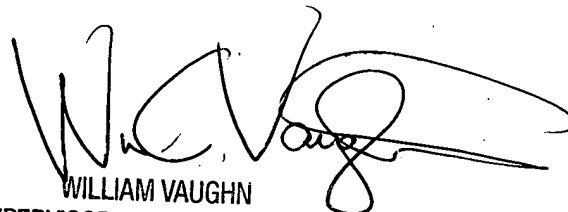
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 571-272-3924. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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